What is Claimed:

Sub A'

1. A method for visualizing data arrays provided in the form of a plurality of data values, said method comprising the steps of:

    generating a grid based on the plurality of data values;

    associating each data value of the plurality of data values with one of a plurality of geometric shapes according to a predetermined set of rules;

    placing said one of the plurality of geometric shapes associated with each data value of the plurality of data values on the grid; and

    displaying visual and geometric information placed on the grid to a user in graphical form.

2. A method for visualizing data arrays provided in the form of a plurality of data values, said method comprising the steps of:

    generating a grid based on the plurality of data values;

    identifying one of a plurality of numerical attributes associated with each data value of the plurality of data values;

    associating each numerical attribute with one of a plurality of visual attributes;

11   associating each data value of the plurality of
12   data values with one of a plurality of geometric shapes each
13   having one of the plurality of visual attributes, which is
14   consistent with the data value, according to a predetermined
15   set of rules;

16   placing said one of the plurality of geometric
17   shapes associated with each data value of the plurality of
18   data values on the grid; and

19   displaying visual and geometric information placed
20   on the grid to a user in graphical form.

1   3.   A method for visualizing data provided in the
2   form of a geometric representation, said method comprising
3   the steps of:

4   extracting a plurality of data values from the
5   geometric representation;

6   generating a graphic representation of the
7   plurality of data values; and

8   displaying the graphic representation to a user.

4.   The method according to claim 3, wherein the
graphic representation of the plurality of data values is
the graphic representation of a conductance matrix.

1   5.   An article of manufacture comprising a
2   computer usable medium having computer readable program code
3   means embodied therein for visualizing data arrays provided
4   in the form of a plurality of data values, the computer
5   readable program code means in said article of manufacture

6   comprising computer readable program code means for causing
7   a computer to effect:

8   generating a grid based on the plurality of data
9   values;

10   associating each data value of the plurality of
11   data values with one of a plurality of geometric shapes
12   according to a predetermined set of rules;

13   placing said one of the plurality of geometric
14   shapes associated with each data value of the plurality of
15   data values on the grid; and

16   displaying visual and geometric information placed
17   on the grid to a user in graphical form.

1   6.   An article of manufacture comprising a
2   computer usable medium having computer readable program code
3   means embodied therein for visualizing data arrays provided
4   in the form of a plurality of data values, the computer
5   readable program code means in said article of manufacture
6   comprising computer readable program code means for causing
7   a computer to effect:

8   generating a grid based on the plurality of data
9   values;

10   identifying one of a plurality of numerical
11   attributes associated with each data value of the plurality
12   of data values;

13   associating each numerical attribute with one of a
14   plurality of visual attributes;

15   associating each data value of the plurality of
16 data values with one of a plurality of geometric shapes each
17 having one of the plurality of visual attributes, which is
18 consistent with the data value, according to a predetermined
19 set of rules;

20   placing said one of the plurality of geometric
21 shapes associated with each data value of the plurality of
22 data values on the grid; and

23   displaying visual and geometric information placed
24 on the grid to a user in graphical form.

1   7.   An article of manufacture comprising a
2 computer usable medium having computer readable program code
3 means embodied therein for visualizing data provided in the
4 form of a geometric representation, the computer readable
5 program code means in said article of manufacture comprising
6 computer readable program code means for causing a computer
7 to effect:

8   extracting a plurality of data values from the
9 geometric representation;

10   generating a graphic representation of the
11 plurality of data values; and

12   displaying the graphic representation to a user.

1   8.   The article of manufacture according to claim
2 7, wherein the graphic representation of the plurality of
3 data values is the graphic representation of a conductance
4 matrix.

1   9. A computer program product comprising a
2   computer usable medium having computer readable program code
3   means embodied therein for causing visualization of data
4   arrays provided in the form of a plurality of data values,
5   the computer readable program code means in said computer
6   program product comprising computer readable program code
7   means for causing a computer to effect:

8   generating a grid based on the plurality of data
9   values;

10   associating each data value of the plurality of
11   data values with one of a plurality of geometric shapes
12   according to a predetermined set of rules;

13   placing said one of the plurality of geometric
14   shapes associated with each data value of the plurality of
15   data values on the grid; and

16   displaying visual and geometric information placed
17   on the grid to a user in graphical form.

1   10. A computer program product comprising a
2   computer usable medium having computer readable program code
3   means embodied therein for causing visualization of data
4   arrays provided in the form of a plurality of data values,
5   the computer readable program code means in said computer
6   program product comprising computer readable program code
7   means for causing a computer to effect:

8   generating a grid based on the plurality of data
9   values;

10   identifying one of a plurality of numerical
11 attributes associated with each data value of the plurality
12 of data values;

13   associating each numerical attribute with one of a
14 plurality of visual attributes;

15   associating each data value of the plurality of
16 data values with one of a plurality of geometric shapes each
17 having one of the plurality of visual attributes, which is
18 consistent with the data value, according to a predetermined
19 set of rules;

20   placing said one of the plurality of geometric
21 shapes associated with each data value of the plurality of
22 data values on the grid; and

23   displaying visual and geometric information placed
24 on the grid to a user in graphical form.

1   *SUB A³*   11. A computer program product comprising a
2 computer usable medium having computer readable program code
3 means embodied therein for causing visualization of data
4 provided in the form of a geometric representation, the
5 computer readable program code means in said computer
6 program product comprising computer readable program code
7 means for causing a computer to effect:

8   extracting a plurality of data values from the
9 geometric representation;

10   generating a graphic representation of the
11 plurality of data values; and

12   displaying the graphic representation to a user.

1   12. The product according to claim 11, wherein
2 the graphic representation of the plurality of data values
3 is the graphic representation of a conductance matrix.

1   13. A storage device readable by machine,
2 tangibly embodying a program of instructions executable by
3 the machine to perform a method for visualizing data arrays
4 provided in the form of a plurality of data values, said
5 method comprising the steps of:

6   generating a grid based on the plurality of data
7 values;

8   associating each data value of the plurality of
9 data values with one of a plurality of geometric shapes
10 according to a predetermined set of rules;

11   placing said one of the plurality of geometric
12 shapes associated with each data value of the plurality of
13 data values on the grid; and

14   displaying visual and geometric information placed
15 on the grid to a user in graphical form.

1   14. A storage device readable by a machine,
2 tangibly embodying a program of instructions executable by
3 the machine to perform a method for visualizing data arrays
4 provided in the form of a plurality of data values, said
5 method comprising the steps of:

6   generating a grid based on the plurality of data
7 values;

8   identifying one of a plurality of numerical

9 attributes associated with each data value of the plurality

10 of data values;

11   associating each numerical attribute with one of a

12 plurality of visual attributes;

13   associating each data value of the plurality of

14 data values with one of a plurality of geometric shapes each

15 having one of the plurality of visual attributes, which is

16 consistent with the data value, according to a predetermined

17 set of rules;

18   placing said one of the plurality of geometric

19 shapes associated with each data value of the plurality of

20 data values on the grid; and

21   displaying visual and geometric information placed

22 on the grid to a user in graphical form.

1 *SUBA⁴*   15. A storage device readable by a machine,

2 tangibly embodying a program of instructions executable by

3 the machine to perform a method for visualizing data

4 provided in the form of a geometric representation, said

5 method comprising the steps of:

6   extracting a plurality of data values from the

7 geometric representation;

8   generating a graphic representation of the

9 plurality of data values; and

10   displaying the graphic representation to a user.

1   16.   The device according to claim 15, wherein the
2 graphic representation of the plurality of data values is
3 the graphic representation of a conductance matrix.

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